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Applicant(s): Jung, et al.

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**U.S. PATENT DOCUMENTS**

*EXAMINER INITIAL	DOCUMENT NUMBER							DATE	NAME	CLASS	SUBCLASS	FILING DATE IF APPROPRIATE
/LGL/	3	3	2	7	5	8	4	06/67	Kissinger	356	375	
	3	4	3	6	1	5	7	04/69	H. Adler et al.			04/08/66
	3	5	0	7	0	4	2	04/70	N. A. Hana			04/14/69
	3	5	5	5	2	6	2	01/71	Shimada	235	193	05/0768
	3	6	8	4	8	6	8	08/72	Christie	235	61.11	
	3	7	4	3	4	2	9	07/73	Kawai			05/17/71
	3	7	4	8	7	4	1	07/73	Yerkes, Jr.	32	71	06/08/72
	3	7	7	8	5	4	1	12/73	Bowker			09/03/71
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	4	1	8	4	1	7	5	01/80	Mullane, Jr.	356	237	02/09/77
	4	2	0	7	6	7	8	06/80	Jeannette	433	203	09/26/77
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	4	2	7	8	3	5	3	07/81	Ostermayer et al.	356	416	04/11/80
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	4	3	2	4	5	4	6	04/82	Heitlinger et al.	433	25	07/14/80
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	5	1	3	9	3	3	5	08/92	Lundeen et al.	356	328	
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	5	8	5	0	3	0	1	12/98	Mizuochi et al.	359	124	04/30/98
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## FOREIGN PATENT DOCUMENTS

	DOCUMENT NUMBER							DATE	COUNTRY	CLASS	SUBCLASS	TRANSLATION	
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/LGL/	0	0	4	9	9	0	5	10/81	EP				

## OTHER DOCUMENTS (Including Author, Title, Date, Pertinent Pages, Etc.)

/LGL/	Aswell, Cecil J. et al., "A Monolithic Light-to-Frequency Converter with a Scalable Sensor Array", IEEE, 1994, pp. 122-123 and 158-159.
	Bangtson et al.; "The conversion of Chromascan designations to CIE tristimulus values"; Nov. 1982; pp 610-617 Vol. 48 No. 5, Journal of Prosthetic Dentistry
	Barghi et al.; "Effects of batch variation on shade of dental porcelain"; Nov. 1985; pp 625-627, Vol. 54 No. 5, Journal of Prosthetic Dentistry
	Council on Dental Materials, Instruments, and Equipment; "How to improve shade matching in the dental operator"; Feb. 1981; pp 209-210, Vol. 102; JADA
	Davison et al.; "Shade selection by color vision-defective dental personnel"; Jan. 1990; pp 97-101 Vol. 63 No. 1, Journal of Prosthetic Dentistry
	Dickerson; "Trilogy of Creating an Esthetic Smile"; Jul. 1996; pp 1-7, Vol. 1, Issue 3; Technical Update-A Publication of Micro Dental Laboratories
	Goldstein et al.; "Repeatability of a specially designed intraoral colorimeter"; Jun. 1993; pp 616-619, Vol. 69 No. 6, Journal of Prosthetic Dentistry
	Goodkind et al.; "A comparison of Chromascan and spectrophotometric color measurement of 100 natural teeth"; Jan. 1985; pp 105-109, Vol. 53 No. 1, Journal of Prosthetic Dentistry
	Ishikawa et al.; "Trial Manufacture of Photoelectric Colorimeter Using Optical Fibers"; Nov. 1969; pp 191-197, Vol. 10, No. 4, Bull. Tokyo dent. Coll.
	Johnston et al.; "The Color Accuracy of the Kubelka-Munk Theory for Various Colorants in Maxillofacial Prosthetic Material"; Sep. 1987; pp 1438-1444, Vol. 66, No. 9; J. Dent. Res.
	Johnston et al.; "Assessment of Appearance Match by Visual Observation and Clinical Colorimetry"; May 1989; pp 819-822, Vol. 68, No. 5; J. Dent. Res.
	Kato et al.; "The Current State of Porcelain Shades: A Discussion"; Oct. 1984; pp 559-571, Vol. 8, No. 9; Quintessence Of Dental Technology
	Miller; "Organizing color in dentistry"; Dec. 1987; pp 26E-40E, Special Issue; JADA
	Miller et al.; "Shade selection and laboratory communication"; May 1993; pp 305-309, Vol. 24, No. 5; Quintessence International
	O'Brien et al.; "Coverage Errors of Two Shade Guides"; Jan/Feb. 1991; pp 45-50, Vol. 4, No. 1; The International Journal of Prosthodontics
	O'Brien et al.; "A New, Small-color-difference Equation for Dental Shades"; Nov. 1990; pp 1762-1764, Vol. 69, No. 11; J. Dent. Res.
	O'Keefe et al.; "Color Shade and Matching: The Weak Link in Esthetic Dentistry"; Feb. 1990; pp 116-120, Vol. XI, No. 2, Compend Contin Educ Dent
	Pensler; "A New Approach to Shade Selection"; Sep. 1991; pp 668-675, Vol. XII, No. 9, Compend Contin Educ Dent
	Preston et al.; "Light and Lighting in the Dental Office"; Jul. 1978; pp 431-451, Vol. 22, No. 3; Dental Clinics of North America
	Preston; "Current status of shade selection and color matching"; Jan. 1985; pp 47-58, Vol. 16, No. 1; Quintessence International
	Rosenstiel et al.; "The effects of manipulative variables on the color of ceramic metal restorations"; Sep. 1987; pp 297-303, Vol. 60 No. 3, Journal of Prosthetic Dentistry
	Rugh et al.; "The Relationship Between Elastomer Opacity, Colorimeter Beam Size, and Measured Colorimetric Response"; Nov/Dec 1991; pp 569-576, Vol. 4, No. 6; The International Journal of Prosthodontics
	Ryther et al.; "Colormetric Evaluation of Shade Guide Variability"; 1993; pg. 215; J. Dent. Res. 72 (IADR Abstracts) Special Issue
	Schwabacher et al.; "Three-dimensional color coordinates of natural teeth compared with three shade guides"; Oct. 1990; pp 425-431, Vol. 64 No. 4, Journal of Prosthetic Dentistry
	Seghi et al.; "Spectrophotometric analysis of color differences between porcelain systems"; Jul. 1986; pp 35-40, Vol. 56 No. 1, Journal of Prosthetic Dentistry
	Seghi et al.; "Visual and Instrumental Colorimetric Assessments of Small Color Differences on Translucent Dental Porcelain"; Dec. 1989; pp 1760-1764, Vol. 68, No. 12; J. Dent. Res.
	Seghi et al.; "Performance Assessment of Colorimetric Devices on Dental Porcelains"; Dec. 1989; pp 1755-1759, Vol. 69, No. 11; J. Dent. Res.
	Seghi; "Effects of Instrument-measuring Geometry on Colorimetric Assessments of Dental Porcelains"; May. 1990; pp 1180-1183, Vol. 69, No. 5; J. Dent. Res.
/LGL/	Sorensen et al.; "Improved color matching of metal-ceramic restorations. Part I: A systematic method for shade determination"; Aug. 1987; pp 133-139, Vol. 58, No. 2, Journal of Prosthetic Dentistry
/LGL/	Sorensen et al.; "Improved color matching of metal-ceramic restorations. Part II: Procedures for visual communication"; Dec. 1987; pp 669-677,

		Vol. 58, No. 6, Journal of Prosthetic Dentistry
/LGL/		Sproul; "Color matching in dentistry. Part 1. The three-dimensional nature of color"; Apr. 1973; pp 416-424, Vol. 29, No. 4; J. Prosthet. Dent.
		Sproul; "Color matching in dentistry. Part 1. Color control"; Feb. 1974; pp 146-154, Vol. 31, No. 2; J. Prosthet. Dent.
		Sproul; "Color matching in dentistry. Part 2. Practical applications of the organization of color"; May 1973; pp 556-566, Vol. 29, No. 5; J. Prosthet. Dent.
		Swift et al.; "Colormetric Evaluation of Vita Shade Resin Composites"; 1994; pp 356-361, Vol. 7, No. 4; The International Journal of Prosthodontics
/LGL/		van der Burgt et al.; "A comparison of new and conventional methods for quantification of tooth color"; Feb. 1990; pp 155-162, Vol. 63 No. 2, Journal of Prosthetic Dentistry
EXAMINER		DATE CONSIDERED
/Layla Lauchman/		08/19/2007
<p>*EXAMINER: Initial if citation considered, whether or not citation is in conformance with MPEP § 609. Draw line through citation if not in conformance and not considered. Include copy of this form with next communication to applicant.</p>		